

What is claimed is:

1. A flexible electrode antenna comprising:
 - 5 a layer of conductive material;
 - a layer of flame retardant material adhered to a first side of the layer of conductive material; and
 - a layer of protective material adhered to a second side of the layer of conductive material.
- 10 2. The flexible electrical antenna of Claim 1, wherein the layer of conductive material is comprised of a layer of copper between two layers of nickel.
- 15 3. The flexible electrical antenna of Claim 2, wherein the layer of copper has a thickness in the range of 2000 to 3000 angstroms.
4. The flexible electrical antenna of Claim 3, wherein the layer of copper has a thickness of about 2500 angstroms.
5. The flexible electrical antenna of Claim 2, wherein the layers of nickel have a thickness in the range of 250 to 600 angstroms.
- 20 6. The flexible electrical antenna of Claim 5, wherein the layers of nickel have a thickness of about 400 angstroms.
- 25 7. The flexible electrical antenna of Claim 1, wherein the layer of conductive material comprises a layer of nickel.
8. The flexible electrical antenna of Claim 1, wherein the layer of conductive material comprises a layer conductive non-woven material.
- 30 9. The flexible electrical antenna of Claim 1, wherein the layer of conductive material comprises a layer conductive woven material

10. The flexible electrical antenna of Claim 1, wherein the layer of conductive material is comprised of a polymer substrate having a metalized layer on a first major surface of the substrate.

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11. The flexible electrical antenna of Claim 10, wherein the metalized layer on the first major surface of the polymer substrate comprises a layer of nickel.

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12. The flexible electrical antenna of Claim 10, wherein the metalized layer on the first major surface of the polymer substrate comprises layers of nickel and copper.

13. The flexible electrical antenna of Claim 1, wherein the flame retardant layer is glass cloth.

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14. The flexible electrical antenna of Claim 13, wherein the glass cloth is formed of blown glass fibers.

15. The flexible electrical antenna of Claim 1, wherein the protective material is a non-woven material.

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16. The flexible electrical antenna of Claim 15, wherein the protective material is a non-woven PET.

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17. The flexible electrical antenna of claim 13, wherein the antenna has a tear resistance value using test standard ASTM D 1004-94A in the range from 8.0 to 11.6 pounds in the machine direction.

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18. The flexible electrical antenna of claim 13, wherein the antenna has a tear resistance value using test standard ASTM D 1004-94A in the range from 9.7 to 20.7 pounds in the cross direction.